THE RELATION OF DRUGS TO TREATMENT.

AN

INTRODUCTORY LECTURE

BEFORE THE

MEDICAL CLASS OF 1856-57

OF

HARVARD UNIVERSITY.

By EDWARD H. CLARKE, M.D.
PROFESSOR OF MATERIA MEDICA.

BOSTON:
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BOSTON, NOVEMBER 7, 1856.

Prof. CLARKE.

DEAR SIR:

As Committee of the Medical Class, it is our agreeable duty to request a copy of your Address for publication.

We are, Sir,

Your very Obedient Servants,

WILLIAM THORNDIKE,
A. RUPPAUNER,
A. D. SINCLAIR.

BOSTON, NOVEMBER 8, 1856.

GENTLEMEN:

I have the honor to acknowledge the receipt of your note of November 7th, requesting a copy of my Address to the Medical Class for publication. With the hope that the views therein contained may be of some service to you in your future studies, it gives me pleasure to comply with your request, and submit the Address to the disposal of the Class for whom it was prepared.

Accept the assurance of regard with which I am

Very truly yours,

EDW. H. CLARKE.

To WILLIAM THORNDIKE,
A. RUPPAUNER,
A. D. SINCLAIR,
Committee of the Medical Class.

ADDRESS.

GENTLEMEN OF THE MEDICAL CLASS:

MY colleagues have devolved on me the grateful duty of welcoming you, to-day, to this place, and to the commencement of our winter's labor and study. Most gladly do I extend to you, in their name and my own, a sincere and hearty welcome.

We meet, nominally as teachers and pupils, but really as fellow students, travelling the same road, with a common object in view; as loyal disciples of the same science, which is the mistress of our time and our affections. Those of us who stand here as teachers are only students like yourselves—somewhat more advanced to be sure—but still students. We do not come to the halls of this University to teach you a science which is perfect, which has reached its utmost limit, but rather to show you the way of studying for yourselves, so that you may penetrate farther into the secrets of that science than we have done; you come here to learn only the alphabet of medicine, which hereafter you must form for yourselves, by your own observation, your own study, your own experience, into a more perfect and complete treatise.

The authority of established custom requires the speaker, on occasions like the present, to invite your attention to the discussion of some subject, which may form an appropriate introduction to your winter's studies. Among the various themes, which suggest themselves to me at this time, there is one, which directly or indirectly occupies the public mind to a considerable degree; which interests you especially as students, and will equally interest you hereafter as practitioners of Medicine and Surgery; and which naturally belongs to the department that I have the honor to teach in this place. This subject is the relation which drugs bear to the treatment of disease; the rank which drugs hold, as therapeutic agents, in the hands of scientific physicians; the value which you are to place upon them in the management of the sick.

You will readily appreciate the necessity of just ideas on this matter. As students of Materia Medica, it is especially important for you to entertain a correct notion of the relative position which drugs hold to other therapeutic agencies. The danger to which you are exposed is that of over estimating their value—of assigning to them an undue curative influence—of being led, imperceptibly, to the conviction which the public unfortunately have adopted, that the treatment of disease consists chiefly in the administration of medicines. In the treatises on Materia Medica, which have appeared during the last quarter of a century, many of them monuments of laborious research and extraordinary ability, you will find minute and exact descriptions of the pro-

perties of drugs, and particularly of their effects in the management of disease, and upon the different functions of the system. You will learn that by means of drugs you can play with the human body, stimulating here, and checking there, apparently with as much ease as a musician makes his instrument respond to his touch. You will learn that, by means of drugs, the action of the heart can be accelerated or retarded, the functions of the brain exalted or depressed, wings given to the imagination and fire to the speech, or a stupor thrust upon the mind and the tongue palsied; that the secretions of the glands can be stimulated or dried up, that respiration and animal temperature, nutrition and locomotion, sensation and thought, *all* can be more or less modified by the administration of drugs in legitimate doses.

The natural inference from these facts, if uncorrected by a careful study of the natural history of disease, and the influence of other means than drugs, is the popular notion, that medical treatment resolves itself simply into giving the right medicine; that to be a skilful physician requires only the ability to select, from the storehouse of the Materia Medica, the proper article to be put into the stomach; and that when this is done, all is done. It would seem, as you read the elaborate treatises of Christison, or Jonathan Pereira, or Wood and Bache, that here are to be found all needful weapons with which to combat or manage disease,—here is the whole armory of Therapeutics,—the entire armamenta medicorum. It is true that experience and observation will soon disa-

buse you of your error. Before the first decade of your life as a practitioner has passed, perhaps before you have made a year's acquaintance with the sick room, you will have learned that though Senna will purge, and Ipecac vomit, and Calomel salivate, and Opium stupify, yet that neither Senna, Ipecac, Calomel or Opium will *cure* disease except in rare instances. It is this popular belief in the efficacy of drugs which gives point to the apologue of D'Alembert. "Nature (says the philosopher) is fighting with disease; a blind man, armed with a club, that is the physician, comes to settle the difference. He first tries to make peace; when he cannot accomplish this, he lifts his club and strikes at random; if he strikes the disease, he kills the disease; if he strikes nature, he kills nature."*

In order to understand the therapeutic value of drugs, it is important for you to know, on the one hand, what disease is, and what laws it obeys, and, on the other hand, what means, besides drugs, are at your disposal for the treatment of it. Let us briefly examine these points.

Before discussing them, however, and preparatory to them, let me remind you of a law, which underlies all medical treatment, and which, though universally acknowledged at the present day, is too often forgotten or neglected. I refer to the physiological law of alternate waste and repair—destruction and reproduction. The body is a sort of a machine, which is liable to get out of repair; which is apt to

* Abercrombie on the Intellectual Powers, p. 293, Am. Edition.

be injured by unskilful handling, or abused by gross indulgence. At the same time it is a machine, endowed with a self-renovating, or self-repairing power. Call this power what you will, the vital principle, the vis medicatrix naturæ, or the law of waste and repair, it is an intangible and mysterious agency, which pervades every portion of the body, even the minutest, and gives to each part and to the whole the ability to resist disease and repair injury. This power is the physician's chief assistant. It is his reliance, his sheet anchor. By its means, the system is able to counteract the influence and repair the effects of disease. Whenever any part of the body is attacked, this recuperative power is on the alert to foil the assault. So important is this principle of spontaneous restoration, that without it, Sir Gilbert Blane remarked, as quoted with approbation by Dr. Jacob Bigelow, "the human species would long ago have been extinct."* In it, lies the foundation of all rational treatment. Whatever drugs can do, how great soever their influence, they are secondary, and must be kept subservient to it. In most cases, the cure of disease is wrought through ITS agency. The skilful practitioner watches with anxious care its curious processes, and endeavors to aid their action. Various means are at his disposal for doing this. Among them, but not the only ones, are drugs. Remember, then, when you are called upon to take care of a pneumonia or an erysipelas, a fever or a catarrh, that the restorative powers of nature, working in the

* Nature in Disease, p. 37.

mysterious ways, that are called destruction and reproduction, assimilation and elimination, are busily occupied in the system, which has been invaded by disease, with the endeavor to get rid of the malady and repair its ravages. YOUR superintendence, skill, and manifold medical appliances must all be subsidiary to these natural efforts.

Making this healing principle or power our point of departure, let us briefly examine, as I just proposed, 1st, the nature of disease; and 2nd, the various means at our disposal for its management.

Without undertaking to present any new classification of diseases, it is sufficient for my purpose to consider them as belonging to three great classes; viz., self-limited diseases, diseases of indefinite duration, and necessarily fatal diseases. Under one or the other of these three heads, we may range "all the ills that flesh is heir to."

I cannot convey to you a better notion of what I mean by the first class, than to quote Dr. Bigelow's definition from his admirable essay on self-limited diseases. "By a self-limited disease," says Dr. Bigelow, "I would be understood to express one, which receives limits from its own nature, and not from foreign influences; one, which, after it has obtained a foothold in the system, cannot, in the present state of our knowledge, be eradicated or abridged by art—but to which there is due a certain succession of processes, to be completed in a certain time; which time and processes may vary with the constitution and condition of the patient, and may tend to death or to recovery, but are not known to be shortened or

greatly changed by medical treatment."* A large number of diseases belong to this class, such as Pertussis, Scarlet fever, Measles, Small pox, Erysipelas, Dysentery, Typhoid fever, Pneumonia, and many others. In proportion as the character and natural history of different maladies have been ascertained, the catalogue of self-limited diseases has been enlarged. It is probable that future investigations will enlarge it still more. With regard to these affections, it is obvious that no treatment can properly be called curative. Much can be done in the way of putting patients into such circumstances, with such surroundings and such aids, that the necessary processes can be commenced, carried on, and terminated favorably. Science can watch these processes, recognise each successive step, detect any deviation from a normal type, and discover the earliest approach of any complication. Medical art can facilitate the movement of these processes, and aid in removing obstructions, and warding off disastrous complications, and alleviating pain, and supporting the failing strength. But in doing this, the scientific practitioner will employ many other agents besides drugs. What some of these agents are, will be mentioned presently. It is sufficient to say here, that in the treatment of self-limited diseases, drugs hold a position, important to be sure, but secondary to other means. From the very nature of things, they are not, and cannot be, curative.

The second group—or diseases of indefinite du-

* Nature in Disease, p. 4.

ration—are affections which are not limited by their own nature, so far as we know them at present, and also are not malignant in their character. They continue for no fixed period. Doubtless some of them will be shown hereafter to belong to self-limited diseases. Many of them are obscure in their causes, pathology and treatment. They include discases of the nervous system, of the blood, of imperfect nutrition, functional derangements of the heart, and so on. Some of them can be abridged, and some eradicated by judicious treatment. The restorative powers of nature, alone, acting under favorable conditions, will put an end to a large proportion of them. Some of them are gotten rid of in a short time. Others continue indefinitely, or till life is ended by some inter-current disease. A few of them are really *cured* by drugs; as when anemia is relieved by iron, syphilis by mercury or iodide of potassium, and chills and fever by quinia. In most of them, medical treatment is more directly curative than in those of the first class. Their causes can frequently be removed, their duration abridged, and sometimes they can be absolutely controlled. But in doing this, and it is doing a great deal, the physician, as in the case of self-limited diseases, calls to his aid all the resources and appliances of medical science and art, and not drugs alone. Medical art has more to rely upon and to employ, than what you will find upon the druggist's shelves. You cannot buy from the apothecary, all the weapons with which you are to encounter disease.

In the group of necessarily fatal diseases, are

found those, which progress steadily and surely from one change to another, each successive change being worse than the previous, each change being a step nearer the citadel of life, till they destroy life itself. These are well known and fearful maladies. Their names create a shudder. I refer to such affections as tubercle, carcinoma, scirrhus, apoplexy, softening of the brain, certain organic affections of the heart, kidney and the like. These diseases can be alleviated by medical treatment. The life, upon which they are parasites, can be prolonged. The pathway to the grave, which they open, can be smoothed. The agony of the sick room can be rendered tolerable. Suffering can be shorn of its keenest edge, and the pillow of sickness deprived of its sharpest thorns. Still, in the present state of our knowledge, these diseases cannot be cured. Art can palliate, but cannot remove them. And for this purpose, drugs, though among the most valuable means at your disposal, are not the only ones. The system is unable to cope with such powerful foes; and drugs, which cannot cure, which cannot succeed, where the recuperative powers of the system fail, are able, when judiciously administered, to prolong life, to keep up the failing strength, and alleviate the agonies of "the inevitable hour."

I have thus described diseases as capable of being divided into three classes; as self-limited, of indefinite duration, or necessarily fatal. When they are self-limited, science can watch, and art assist, while nature performs the work of cure. When they are necessarily fatal, science can discover their character,

and art protect the system from the suffering incident to them. When they are neither self-limited, nor fatal, medical treatment can accomplish much in the way of abridging their duration, and sometimes can really put an end to them.

We are now prepared, after this brief consideration of the extent to which disease is amenable to treatment, to examine the resources at our disposal for its management; that is, the resources of Therapeutics.

You cannot make a greater mistake than to suppose that Therapeutics consists only in dealing out drugs; in administering calomel and opium, camomile and thoroughwort. If such should be the result of your professional studies, you will justify among your patients the reasoning and practice of Montaigne, who hated physic, and though suffering from an intolerable malady, never took it, and wrote: "For my own part, I think of physic as much good or ill as any one would have me; for, thanks be to God, we have no traffic together. . . . When I am sick, I let nature work, supposing her to be sufficiently armed with teeth and claws to defend herself when attacked, and to uphold that contexture, the dissolution of which she flies and abhors. For I am afraid, lest, instead of assisting her, when grappled and struggling with the disease, I should assist her adversary, and give her more work to do."*

In reality, Therapeutics, as Dr. Samuel Dickson has justly observed, "comprises the whole manage-

* Essays of Montaigne, p. 76, Am. Edition.

ment of an attack of disease; the regimen, the physical and moral control, nursing, &c., as well as the administration of medicines. Indeed, this general and comprehensive superintendence is often of far more importance than the mere pharmaceutical appliances and means employed. Voltaire's sarcastic definition of the practice of physic, as the 'art of pouring drugs of which we know little, into a body of which we know less,' is a most unjust reproach, when applied to the modern scientific physician, of whom prudence is the peculiar attribute—nullum numen absit, si sit prudentia;—and who believes, with Chomel, and acts upon the belief, that the first duty of the practitioner is to take care that he does his patient no injury, in his efforts to benefit him."*

Among the resources of Therapeutics, the mind holds an important place. The mutual relations and influences of the mind and body are obscure and ill understood. Yet enough is known to show that the former exerts a marked influence over the latter. The records of medicine are full of instances illustrating this. Fear, anxiety, want of confidence, any continued depressing mental condition, will go a great way towards producing disease, preventing its relief, or retarding convalescence. Indeed, such a condition will sometimes of itself keep a patient sick, in spite of the best nursing and the most skilful administration of drugs. The mind can cause disease. It can cure disease. It can prevent disease. It can give efficacy

* Elements of Medicine, by Samuel H. Dickson.

to the most ill-considered and absurd nostrums, and render void the most skilfully compounded prescriptions. It can deprive pain of more than half its power; give strength to the wearied body; unbend a rheumatic joint; keep the brain from sleeping, or distil upon it the sweetest repose; ward off infection, or invite an epidemic to its prey; derange the function of digestion, or banish dyspepsia and all its horrors. The mind can cure, and it can kill. I would rather a friend of mine, in most cases, should be under the care of a practitioner in whom he had entire, implicit and unquestioning confidence, and who would give him only water for medicine, and manage his regimen properly, than have him treated by the most skilful prescriber living, under whose care he would be doubting and anxious. The effect of drugs is promoted, and all the ordinary appliances of Therapeutics rendered more efficient, by securing the co-operation of the mind of the patient. The scientific physician employs it as a remedial agent. It forms an important part of his Materia Medica. Be careful, then, to study the influence of the mind upon the body, and learn how to use it judiciously. See to it that your patients have confidence in you, and that all unfavorable mental influences are removed. When I advise you to obtain the confidence of your patients, and to use the mind as a remedial influence, I mean something more, something deeper, something profounder far, than the acquisition of a pleasing manner, a courteous address and a benignant smile. You must study carefully the laws, which preside over the mysterious union of body

and mind, flesh and spirit, and comprehend the power of one over the other. You must know how the body acts upon the mind, and how the mind re-acts upon the body, and learn how to control the one by the other. Every physician should be a practical metaphysician.

Next, the external influences which surround a patient are of great importance. They usually come under the name of regimen or hygiene. Their value is universally acknowledged, but, in practice, too little attention is often bestowed upon them. I refer to such influences as light, temperature, good air, diet, bathing, climate, clothing and exercise. These are all therapeutical agents. They are remedies. In reality they belong to the Materia Medica. It is your duty to study them carefully, and comprehend their value, and learn how to use them. You cannot safely leave the management of them to the judgment, or prejudices, or caprices of your patients and their nurses. You will find drugs to be of little value, in your hands, if these general and potent agents are mismanaged. At the present day, it will not do for you to neglect them. As well might the sailor refuse to trim his sails to the winds, or the engineer ignore the laws of expansion and contraction, as for a physician to be ignorant of, or to neglect, the laws of hygiene and regimen.

A superficial acquaintance with these matters is not sufficient. You must know them thoroughly, at least so far as they concern the health and disease of your patients. It is not necessary for you to become acquainted with the abstruse laws and calcu-

lations of optics, or to make yourselves accomplished astronomers, in order to become good practitioners. But you should know the influence of light upon the developement of form, and the metamorphosis of tissue. You should know enough of its action, both on the mind and body, to secure for your patients an abundant supply of God's first gift to the world—light. When plants are deprived of light, they become blanched, etiolated, sick. Animals and men undergo a similar change, if subjected to a similar deprivation. This condition may be relieved by removing the cause. Light may be used as a therapeutic agent, if you only understand its value, and know how to control it, and do not neglect it. The sick chamber should be the pleasantest chamber in the house; convalescents should live in the light; and puny, scrofulous children should bask in the rays of the sun, and be kept out of dark rooms and cheerless corners. These are only hints of the remedial power of light. Your own studies must show you its full influence and use.

Temperature is another important remedial agent. Variations of it exert, directly or indirectly, a remarkable power over the progress and causes of disease. I do not refer now so much to the changes of the seasons or of climate, as to artificial heat and cold. An over-heated room will often keep up a headache which no cathartic will remove. A direction to the nurse, not to let the mercury rise above sixty degrees, will frequently do more to secure for your patient a quiet night's sleep, than a dose of opium or ether. The experiments of Currie with cold water, and of

Arnott in congelation, illustrate the power which cold possesses over the system, and over certain maladies. The proper management of this agent implies more study and knowledge than you might at first suppose, or be willing to allow. It will require time and labor for you to become familiar with the chemical and physical properties of sulphate of quinia, its physiological action on the system, its therapeutical uses and its appropriate dose. Without a knowledge of these points, you would not be qualified to administer it in disease. Not less important is it for you to become acquainted with the action of heat and cold upon the skin, the liver, the kidneys and the whole economy, before you undertake to manage the sick room; and not less time and labor are requisite to understand and skilfully use the latter agent than the former, or than any half dozen drugs you may select from the Pharmacopœia.

One thing is to be remembered in this connection; you may give a drug, or withhold it. If you do not understand its properties, or fear its effects, or doubt its appropriateness, you can refuse to give it, and administer something else, or give nothing. Not so with regard to temperature, and other general, or, as they are sometimes called, physical agents of life. You cannot withhold them at your pleasure. You can manage them, you can use them, you can modify them, but you cannot get rid of them. Your patients will come under their influence in some way or other. If the condition of the mind, the quantity of light and air, the character of the temperature, are not appropriate to the diseases you are called

upon to treat, they will be inappropriate. They must be good or bad. See to it that you study them, and understand them, and are able to manage them skilfully. You will often accomplish by them, what drugs are powerless to effect.

The same course of remark applies to the other agents I referred to; such as fresh air, exercise, diet, bathing, climate, clothing, occupation, &c. I have no time to speak of these in detail now. I can only call your attention to their great importance, and urge upon you the necessity of making them subjects of careful investigation. They are in every way worthy of it. They are among the most valuable means within your reach for the treatment of disease. If you do not study them, but neglect them, or leave them to the control of caprice or chance, and rely solely upon the drugs and chemical compounds of the apothecary, you will very likely be outstripped in public patronage by some neighboring charlatan or quack, who, by attention to these powerful agencies, obtains for a globule, or the infusion of a pasture weed, the credit which is due to other means—means, which you ought to understand and use far better than he can. Enough has been said to indicate the value which belongs to these agents as remedial influences. It is your duty to study them, and as far as possible use them for the benefit of your patients. Whatever can be accomplished by them is better so accomplished than by other agents. The administration of drugs can do good, but these must not be neglected. The sailor avails himself of the best model for the build of his ship, of the best

way of rigging it, of the currents of the ocean, the ebb and flow of tides, the curve of the earth, the steady breezes of the trade winds, and of all general means, which science has discovered, to forward him on his voyage. By so doing, he shortens his distance, and hastens his speed, and secures a safe and prosperous entrance to his proposed haven, more certainly than by the most skilful management of his sails and ropes alone, to the neglect of these less obvious agencies. In like manner, by adapting the diet, temperature and climate, the air, clothing and bathing, to the varying circumstances of each individual case, by making these, parts of your Materia Medica, doing with them all which modern science has shown them to be capable of accomplishing, you will curtail disease, and facilitate recovery, and secure a prosperous convalescence, far more certainly than by the aid of drugs alone.

One more remark I have to make, before leaving this part of my subject. It refers to diet and climate. With regard to them, I wish to repeat with emphasis what I have already said of the general agents of this class. A superficial knowledge of them is not sufficient at the present day. You must study them carefully, and learn how to adapt them to different diseases and different phases of disease. You cannot do this easily. It will require patient labor, and much reading, and close observation to make yourselves masters of the experience of the profession on these points. It is an easy matter to avoid the responsibility of treating an obstinate malady, by sending the patient, who is burdened

with it, away from his home and from your care. It requires little thought and study to prescribe change of climate, as a last resort, when all other means have failed. It manifests no great amount of skill or science, to send a patient, who is not relieved by your advice in New York or Boston, into the country or to the sea shore, to the White Mountains or to Europe. This is easily done; and if this is all you do, any charlatan can do as much, and guess as well. But the truth is, it is not an easy matter to prescribe a change of climate judiciously. Its power and value as a therapeutic agent is undoubted. Like all agents of great power, it may do harm as well as good. It may tax your utmost skill and knowledge to determine whether a patient, for whose treatment you are responsible, shall be removed the distance of a dozen miles. For, the influence of climate exhibits itself not only in widely separated countries, but in neighboring localities; in different sections of the same city, or the same township. Some diseases do not seem to be greatly affected by changes of climate; others are modified by slight variations; and the same disease is differently affected at different stages of its progress. You must know all this to understand the physiological action and the therapeutical use of climate.

In like manner, the regulation of the diet of the sick is no simple matter, however simple it may appear to be. It is a complex and difficult subject; and one of such great importance, that you cannot escape the necessity of studying it. Food is the raw material out of which, by curious and mysterious

processes, all the tissues and organs are elaborated. It regulates the composition of the blood, which is the life of man. It supplies the fuel, by which the whole body is warmed. This important agent becomes, in the hands of an educated practitioner, an invaluable therapeutic power. The management of it, so far as your patients are concerned, belongs to you, and you must not leave it to the control of chance or instinct. You must know how to select the oleaginous, farinaceous, saccharine, and other principles of food, so as to send to a diseased organ, through the blood, that nutriment which is appropriate to its condition, and will contribute to its restoration, and also know how to keep from it all improper substances. I say again, it is not an easy matter to do this skilfully; and it is certainly as important to understand this, as it is to understand any portion of the Materia Medica. Rather, I should say, this is a part of the Materia Medica.

Let me confirm these statements by a single quotation. In a late address before the Massachusetts Medical Society, and published by that body, Dr. A. A. Gould made the following just remark: "While we have full faith in the value of medicines, when judiciously administered, we hold, also, that the careful regulation of those conditions and practices, which belong to every day life—the diet and regimen—is not sufficiently appreciated. To regulate for the patient the kind, quantity and frequency of his food and drink; to withdraw him from labor and care, and give him rest and sleep; to enforce the mode and amount of exercise; to regulate his temperature—will accom-

plish almost any thing that can be effected by powerful drugs; and, in the long run, these details are much more important than drugs. Hence it is, that those empirical systems of treatment which have come nearest to dispensing altogether with medicine, at the same time requiring strict attention to diet and regimen, have met with a wider and more lasting favor, and have really been far more successful, than those which have been based on heroic medication. Medicines themselves are but certain properties contained in our ordinary articles of diet, in a more concentrated form—enabling us to accomplish, by a more direct and speedy process indeed, what might ultimately be effected by diet and regimen alone. By a competent knowledge of the properties of the articles of food and drink, and their effects on the living organism, we may at least co-operate with nature, if we cannot wholly dispense with drugs. The great difficulty in the way is, to satisfy the patient that we are not trifling with his disease, unless we give him medicine."*

It is now time to speak of the value and use of drugs themselves. For they possess an intrinsic value; a value so great, that the chief danger is that of over-estimating them, not of under-rating them. Their just position has been implied all along in the preceding remarks, in which I have endeavored to point out to you, with such poor success as I could command, the extent to which disease is under the control of medical treatment, and the important,

* Medical Communications of the Mass. Medical Society, Vol. IX., No. 1.

general, remedial agents, which lie at the foundation of treatment. We have seen that the human body is endowed with a self-recuperative power; that this inherent, restorative power is the physician's main reliance; that diseases, whether self-limited, or of indefinite duration, or necessarily fatal, are under his control, only in a limited degree; that the mind of the patient, on the one hand, and certain general, objective agents, on the other, such as light, air, climate, diet, exercise, and temperature, are, on the whole, the most powerful means for the cure of disease—the basis of all rational treatment. What, then, is the value of drugs? Fortunately, after what has been said, their value as therapeutic agents can be briefly stated.

Drugs hold an important position. In their place they are of *inestimable value.* You cannot study them too carefully. You cannot understand them too well. You can accomplish a vast deal of good by their judicious use; you can do as much evil by their injudicious administration. They are the means, which you will oftenest use, to relieve pain and promote sleep; to increase secretion and hasten absorption; to stimulate or repress the action of any function. You will use them as a spur to wake up a sluggish organ to its duty, or as a check to hold back undue excitement and dangerous action. You can do all this with them, and much more; and yet they are not *curative* in their effects. In a few instances, as we have already seen, drugs really cure disease, as when iron supplies a needed principle to the blood; but these are exceptions to the general

rule. The rule is, that they do not cure disease; and judging from the discoveries of modern science, we have no reason to expect that they ever will. Enlightened and judicious practitioners do not use them as curative agents, except indirectly. The venerable Dr. James Jackson, of this city, in his Letters to a Young Physician, remarks: "It is my own practice to avoid drugs as much as possible; and I more frequently find it difficult to persuade people to abstain from using them, than to induce them to take them. But," he adds, "I hope that you will not believe me distrustful of the power of drugs to do real service to the sick, under proper circumstances. I am far otherwise."* In another place, he says: "It is a very narrow and unjust view of the practice of medicine to suppose it to consist *altogether* in the use of powerful drugs, or of drugs of any kind. Far from it. It is true that the common question addressed to the physician by the patient is, What shall I take? That question implies that there is a drug adapted to every disease. But the enlightened physician first considers whether the patient shall take anything. He considers what other modes of relief there are besides pills and draughts."† The scientific farmer, in tilling the soil, avails himself to the utmost of nature's beneficent laws; of light and warmth, and sunny exposures and varieties of soil, and excellence of stock; and in accordance with these influences, he trims and prunes, and grafts and protects and exposes his plants or crops. He appreciates the value

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* Letters, p. 13. † Ibid., p. 15.

of his own labor and judgment, but he knows that, in all things, his labor and superintendence must be secondary and subject to the mightier and mysterious influences, that come from the atmosphere and the earth, from the clouds, the sunshine and the storm. So with the physician. Medicines are instruments, by which he can trim, and prune, and modify disease, and thus protect the system from many of its ravages, and facilitate nature's healing processes. His main reliance, however, is upon the recuperative power which the All-wise has bestowed upon the system, and upon the judicious management of the physical agents of life.

Drugs may be used to facilitate the processes, which are the necessary methods of getting rid of disease, but they cannot initiate those processes, nor be used as a substitute for them. You must not expect to drive a malady out of the body, by the introduction of a drug into it. Diseases are not mechanical forces; they are abnormal processes of change and destruction. When the cause of disease is seasonably removed from a part, the latter takes on healthy action as soon as it is capable of going through the physiological alternations of waste and supply, which constitute health. It is by this physiological movement of waste and supply, that disease is cured. Drugs can often aid this process. They can remove certain causes of disease, and certain products of disease. They can alleviate the pain, which is incident to nearly all maladies. They can promote the removal of effete and unhealthy matter. But in doing this, they are rarely curative.

They are adjuvants to other measures, and to nature's efforts. Moreover, they are always an interference—the doing of something which might be omitted—and therefore not to be done without good reason.

It has been said, that the crowning excellence and characteristic of a great surgeon is not the ability to perform, with marvellous dexterity, what are termed brilliant operations; not the nerve to draw a knife within a hair's breadth of the carotid, without the quivering of a muscle or the trembling of a finger; not the knowledge to dissect through a complicated mass of nerves, arteries, veins and muscles, straight down to a desired point, with the least possible injury to the adjacent tissues; not all these qualifications, important as they are, but knowledge and science enough to know how to avoid an operation altogether. To be able to remove a surgical disease without the use of the knife, is the triumph of surgery. In like manner, the crowning glory of the scientific physician, consists, not in the skilful compounding of a prescription from the druggist's bottles or the chemist's laboratory; not in the selection of a drug, which is most sure to be followed by a desired action, in the economy; not in playing with the different functions of the system, stimulating here and depressing there; not in doing all this, important as this is, but in carrying a patient through a disease, according to the old motto, "*tuto, cito et jucunde*," with the least possible amount of drugging. The triumph of medicine consists in the treatment of disease by general agencies, without drugs, or with as few as may be. An eminent authority has

defined "a great physician," to be one, "who above other men, understands diagnosis."* It might be added that a great practitioner is one, who knows how to treat disease with the least medicine. It often requires more skill and knowledge not to give drugs, than to give them.

I would not have you understand me by these remarks to decry the value or the use of drugs, or to recommend you to slight the study of them. I have already said, and I repeat it, that in their place, judiciously administered, they are of inestimable value. But you must not expect too much from them. You must not expect them to accomplish what they were never intended to do. You must not put a false estimate upon them. By assigning to them a just position, AMONG remedial agents, I really elevate the department which it is my duty to teach you here. In order to prescribe them, properly, you should study them carefully, in their relations to each other, and to the system. You should know their effects in health and disease. You should be familiar with their appearance, as with the face of an intimate friend. The manner in which they are prepared for market, their sensible properties and chemical composition, the substances with which they are incompatible, and those with which they form desirable compounds, their toxicological action and the appropriate treatment of improper or poisonous doses, their influence on diseased states of the system, and on diseased and healthy functions and organs, their

* Dr. J. Bigelow—Nature in Disease, p. 67.

ordinary dose and mode of administration, all these points with regard to each drug you should be master of, before you undertake to prescribe them. And you should also study *as carefully* and master *as thoroughly* the other agents, which I have referred to, as belonging to the Materia Medica of the enlightened practitioner. When you have accomplished this, you will be prepared to prescribe drugs, *wisely*, for the relief of your patients. You will not be disappointed if they do not *cure* disease, for you will not expect them to do so. And yet you will have the satisfaction of seeing them facilitate the processes of cure, induced and carried on by other agencies; you will use them to subdue the racking pains, which, like tormenting spirits, accompany disease; and when the last sad days of life approach, and the fetters which bind the spirit to the flesh are snapping, one by one, you will use them to alleviate the agony of the separation—to give ease and comfort to the dying. Surely their office is a great one. Let it be justly valued: neither over-estimated, nor despised.